



# SEQUENCE LISTING

<110> Zang, Jingwu Z.  
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Zhang, Dongqing  
Sun, Wei

<120> T Cell Receptor CDR3 Sequence and Methods for  
Detecting and Treating Rheumatoid Arthritis

<130> D6622

<140> US 10/612,468  
<141> 2003-07-02

<160> 168

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<223> part of the complementary determining region-3 (CDR3)  
in the V(16 family (BV16 gene) of T cell receptors  
(TCR) in patients with rheumatoid arthritis (RA)

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agccaagctg acgggaccca t 21

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(CDR3) in the V(14 family (BV14 gene) of TCR in  
patients with RA

<400> 2  
agttccgggg gcagtctgtt c 21

<210> 3  
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<212> PRT  
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<220>

<221> PEPTIDE

<223> conserved amino acid sequence derived from CDR3 of  
TCR beta-chain BV16 in patients with RA

<400> 3

Ser Gln Ala Asp Gly Thr His  
1 5

<210> 4

<211> 7

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<213> *Homo sapiens*

<220>

<221> PEPTIDE

<223> conserved amino acid sequence derived from CDR3 of  
TCR beta-chain BV14 in patients with RA

<400> 4

Ser Ser Gly Gly Ser Leu Phe  
1 5

<210> 5

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<213> *Homo sapiens*

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<223> amino acid sequence motif derived from CDR3 of TCR  
beta-chain BV16 in patients with RA

<400> 5

Ser Trp Gly Gly  
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<223> amino acid sequence of human (beta-chain variable  
region V(14 of T cell receptors

<400> 6

Met	Gly	Pro	Gln	Leu	Leu	Gly	Tyr	Val	Val	Leu	Cys	Leu	Leu	Gly	
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Ala	Gly	Pro	Leu	Glu	Ala	Gln	Val	Thr	Gln	Asn	Pro	Arg	Tyr	Leu	
				20					25					30	
Ile	Thr	Val	Thr	Gly	Lys	Lys	Leu	Thr	Val	Thr	Cys	Ser	Gln	Asn	
				35					40					45	
Met	Asn	His	Glu	Tyr	Met	Ser	Trp	Tyr	Arg	Gln	Asp	Pro	Gly	Leu	
				50					55					60	
Gly	Leu	Arg	Gln	Ile	Tyr	Tyr	Ser	Met	Asn	Val	Glu	Val	Thr	Asp	
				65					70					75	
Lys	Gly	Asp	Val	Pro	Glu	Gly	Tyr	Lys	Val	Ser	Arg	Lys	Glu	Lys	
				80					85					90	
Arg	Asn	Phe	Pro	Leu	Ile	Leu	Glu	Ser	Pro	Ser	Pro	Asn	Gln	Thr	
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Ser	Leu	Tyr	Phe	Cys	Ala	Ser	Ser								
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<210> 7

<211> 96

<212> PRT

<213> *Homo sapiens*

<220>

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<223> amino acid sequence of human (beta-chain variable  
region V(16 of T cell receptors

<400> 7

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Lys	Gly	Gln	Thr	Val	Thr	Leu	Arg	Cys	Asp	Pro	Ile	Ser	Gly	His	
				20					25					30	
Asp	Asn	Leu	Tyr	Trp	Tyr	Arg	Arg	Val	Met	Gly	Lys	Glu	Ile	Lys	
				35					40					45	
Phe	Leu	Leu	His	Phe	Val	Lys	Glu	Ser	Lys	Gln	Asp	Glu	Ser	Gly	
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Met	Pro	Asn	Asn	Arg	Phe	Leu	Ala	Glu	Arg	Thr	Gly	Gly	Thr	Tyr	
				65					70					75	
Ser	Thr	Leu	Lys	Val	Gln	Pro	Ala	Glu	Leu	Glu	Asp	Ser	Gly	Val	
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Tyr	Phe	Cys	Ala	Ser	Ser										
				95											

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 PCR analysis  
  
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 PCR analysis  
  
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 PCR analysis  
  
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<210> 12  
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 PCR analysis  
  
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 PCR analysis  
  
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 PCR analysis  
  
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 aagcagggat atctgtcaac gt 22  
  
 <210> 15  
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 PCR analysis

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 ttcagggctc atgttgctca c 21  
  
 <210> 16  
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 PCR analysis  
  
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 <210> 17  
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 <223> reverse primer specific for TCR BV5 used in real-time  
 PCR analysis  
  
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 PCR analysis  
  
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 <210> 19  
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 <212> DNA  
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 <220>  
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## PCR analysis

<400> 19  
cccccgctct gtgcgctgga t 21

<210> 20  
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<212> DNA  
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<220>  
<223> forward primer specific for TCR BV7 used in real-time  
PCR analysis

<400> 20  
catgggaatg acaaataaga agtct 25

<210> 21  
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<220>  
<223> reverse primer specific for TCR BV7 used in real-time  
PCR analysis

<400> 21  
tggctgcagg gcgtgtaggt g 21

<210> 22  
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<220>  
<223> forward primer specific for TCR BV8 used in real-time  
PCR analysis

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<210> 23  
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<220>  
 <223> reverse primer specific for TCR BV8 used in real-time  
 PCR analysis

<400> 23  
 gagtccctgg gttctgaggg c 21

<210> 24  
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<220>  
 <223> forward primer specific for TCR BV9 used in real-time  
 PCR analysis

<400> 24  
 ccaaaatacc tggtcacaca g 21

<210> 25  
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<220>  
 <223> reverse primer specific for TCR BV9 used in real-time  
 PCR analysis

<400> 25  
 ccaggaatt gatgtgaaga tt 22

<210> 26  
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<220>  
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 PCR analysis

<400> 26  
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<210> 27  
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 <223> reverse primer specific for TCR BV10 used in real-time  
 PCR analysis

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<210> 28  
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 PCR analysis

<400> 28  
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<210> 29  
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<220>  
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 PCR analysis

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<210> 30  
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 PCR analysis

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<210> 31  
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<210> 32

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<210> 33

<211> 21

<212> DNA

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<223> reverse primer specific for TCR BV13 used in real-time PCR analysis

<400> 33

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<210> 34

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<223> forward primer specific for TCR BV14 used in real-time PCR analysis

<400> 34

acccaagata cctcatcaca gtg 23

<210> 35

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 PCR analysis  
  
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 <210> 37  
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 <212> DNA  
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 <223> reverse primer specific for TCR BV15 used in real-time  
 PCR analysis  
  
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 <210> 38  
 <211> 22  
 <212> DNA  
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 <223> forward primer specific for TCR BV16 used in real-time  
 PCR analysis  
  
 <400> 38  
 gttccccagc cacagcgtaa ta 22

<210> 39  
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 PCR analysis  
  
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 PCR analysis  
  
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 PCR analysis  
  
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 tgccgaatct cctcgacta c 21  
  
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 PCR analysis  
  
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 PCR analysis

<400> 46  
 gaccctggtg cagcctgtg 19  
  
 <210> 47  
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 PCR analysis  
  
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 PCR analysis  
  
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 cccagatata agattacaga gaaa 24  
  
 <210> 49  
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 <223> reverse primer specific for TCR BV21 used in real-time  
 PCR analysis  
  
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 ctggatcttg agagtggagt c 21  
  
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 PCR analysis

<400> 50  
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<210> 51  
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<220>  
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<400> 51  
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<210> 52  
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<400> 52  
 aagagggaaa cagccactct g 21

<210> 53  
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 <212> DNA  
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<220>  
 <223> reverse primer specific for TCR BV23 used in real-time PCR analysis

<400> 53  
 cagctccaag gagctcatgt t 21

<210> 54  
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<220>  
 <223> forward primer specific for TCR BV24 used in real-time

## PCR analysis

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<210> 55  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> reverse primer specific for TCR BV24 used in real-time  
PCR analysis

<400> 55  
caggcctggg gagcggtatgt c 21

<210> 56  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer specific for TCR BV25 used in real-time  
PCR analysis

<400> 56  
aaaacatctt gtcagagggg aa 22

<210> 57  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> reverse primer specific for TCR BV25 used in real-time  
PCR analysis

<400> 57  
tgaatcctca agcttcgtag c 21

<210> 58  
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<220>  
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 cagcgccctt gtgttgatg 19  
  
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 aagcgctggc aaaagaagaa 20  
  
 <210> 60  
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 <213> Artificial Sequence  
  
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 <223> BC primer used for run-off reactions  
  
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 <210> 61  
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 <210> 62  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> FAM (expand)-labeled BJ primer used for run-off reactions

<400> 62  
 actgtgägtc tgggtgccttg t 21

<210> 63  
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 <212> DNA  
 <213> Artificial Sequence

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 <223> FAM (expand)-labeled BJ primer used for run-off reactions

<400> 63  
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<210> 64  
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 <223> FAM (expand)-labeled BJ primer used for run-off reactions

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<210> 65  
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 aagagagaga gctgggttcc actg 24

<210> 66  
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 <223> FAM (expand)-labeled BJ primer used for run-off reactions

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 <210> 67  
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 <223> FAM (expand)-labeled BJ primer used for run-off reactions  
  
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 <210> 68  
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 <210> 69  
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 <213> Artificial Sequence  
  
 <220>  
 <223> FAM (expand)-labeled BJ primer used for run-off reactions  
  
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 <210> 70  
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<210> 71  
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 <210> 73  
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 <223> FAM (expand)-labeled BJ primer used for run-off reactions  
  
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 <210> 74  
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 <223> FAM (expand)-labeled BJ primer used for run-off reactions  
  
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 tgaccgtgag cctggtgccc g 21  
  
 <210> 75  
 <211> 20  
 <212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived  
from ST specimen of RA patients

<400> 75

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Phe	Phe	Gly	Pro	Gly										
				20										

<210> 76

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV16 clonotype derived  
from ST specimen of RA patients

<400> 76

tatttctgtg	ccagcagcca	agatagcggg	gggggagggtg	agcagttctt	50
cgggccagga					60

<210> 77

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived  
from ST specimen of RA patients

<400> 77

Tyr	Phe	Cys	Ala	Ser	Ser	Arg	Leu	Gly	Gln	Gly	Tyr	Asn	Glu	Gln
1				5				10					15	
Phe	Phe	Gly	Pro	Gly										
				20										

<210> 78

<211> 60

<212> DNA

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<220>  
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 from ST specimen of RA patients

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 cgggccagga 60

<210> 79  
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 <213> *Homo sapiens*

<220>  
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 from ST specimen of RA patient

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 1 5 10 15  
 Phe Phe Gly Pro Gly  
 20

<210> 80  
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 <223> CDR3 nucleic acid sequence of BV16 clonotype derived  
 from ST specimen of RA patients

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 cgggccagga 60

<210> 81  
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 <212> PRT  
 <213> *Homo sapiens*

<220>  
 <221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived  
from ST specimen of RA patient

<400> 81

Tyr	Phe	Cys	Ala	Ser	Ser	Gln	Gly	Thr	Ser	Gly	Ile	Thr	Glu	Gln
1				5					10				15	
Phe	Phe	Gly	Pro	Gly										
				20										

<210> 82

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV16 clonotype derived  
from ST specimen of RA patients

<400> 82

tatttctgtg	ccagcagcca	ggggactagc	gggatcactg	agcagttctt	50
cgggccagga					60

<210> 83

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived  
from ST specimen of RA patient

<400> 83

Tyr	Phe	Cys	Ala	Ser	Ser	Gln	Leu	Ala	Gly	Pro	Tyr	Asn	Glu	Gln
1				5					10				15	
Phe	Phe	Gly	Pro	Gly										
				20										

<210> 84

<211> 60

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from ST specimen of RA patients

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